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ABSTRACT

FUTURE CONFLICT: FORCE XXI AGAINST THE ASYMMETRIC OPPONENT by
MAJ William N. Vockery, USA, 56 pages.

Using Force XXI operational concepts, the US Military expects to overwhelm both high- and low-tech opponents. If history is any indication, however, apparently low-tech forces have the potential at least to tie "modern," conventional militaries. This monograph will assess Force XXI operations against these apparently limited threats. Although they may not have modernized their military to compete directly with the Force XXI Army, by focusing on certain aspects of conflict, they may be able to survive and therefore succeed.

The comparison of a Force XXI military and a regional opponent must encompass more than quantitative measures of military effectiveness. The analogy this monograph employs is that of the improvisational theater. The militaries are actors on stage, performing under the direction of their governments and to achieve national objectives. A watchful world audience is provided with real-time coverage of the action through the media. The construction of the stage may impose limitations on the combatants in a modern conflict. Significantly, actors of varying ability on stage sometimes perform equally well in theater. This analogy allows militaries of different abilities to compete on stage with the apparently weaker side occasionally capable of victory.

The Force XXI requirement for rapid and decisive operations, at minimum cost, may result in a force incapable of sustained combat or effective use against certain threats. Not all opponents will collapse when overwhelming force is applied to their command and control facilities. U.S. political objectives might call for more than military defeat. The smaller, more lethal Force XXI Army may have difficulty controlling terrain against a determined enemy. Only one operational concept is described in TRADOC Pam 525-5 although a spectrum of threats is identified. In an Army faced with preparing for deployment world-wide, this lack of flexibility may prove disastrous.

FUTURE CONFLICT:

Force XXI Against the Asymmetric Opponent

A Monograph
By
Major William N. Vockery
Field Artillery



School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

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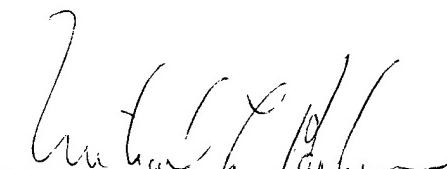
SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

Major William N. Vockery

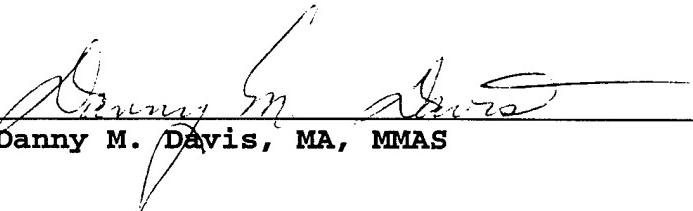
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Asymmetric Opponent

Approved by:



LTC Michael Parker
LTC Michael Parker, MMAS

Monograph Director



COL Danny M. Davis, MA, MMAS

Director, School of
Advanced Military
Studies



Philip J. Brookes
Philip J. Brookes, Ph.D.

Director, Graduate
Degree Program

Accepted this 23d Day of May 1996

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CHAPTER 1

INTRODUCTION

In Force XXI, the US Military is preparing to conduct operations with a speed and lethality designed to overwhelm its opponents.¹ This is not the first time a conventional force with numerically superior capabilities was expected to overwhelm a supposedly inferior military.² When the Soviets sent their armored columns into Afghanistan, they anticipated a rapid campaign to quickly achieve their military and political objectives. Instead, the Mujahadden proved extremely difficult to defeat, prolonging the conflict, and eventually sending the Soviets home. The Mujahadden never truly defeated the Soviets, but by refusing to lose, the western media declared them the more successful of the combatants.³

When the US deployed military forces to Vietnam, they expected decisive victory against the less-well equipped enemy. The North Vietnamese, however, took advantage of the limitations imposed on US forces to survive and prolong the conflict using its foot-mobile, motivated soldiers.⁴ The impact of information warfare on the US populous, whether intentional or by accident, contributed significantly to their ultimate military success.⁵ History has proven the ability of apparently low-tech forces achieving at least a tie against “modern,” conventional militaries. This monograph will attempt to assess Force XXI operations against these apparently limited threats.

In Force XXI, well-equipped, well-educated soldiers will employ state-of-the-art technology to conduct operations that overwhelm an opponent’s ability to respond.

Sensors will track the movements of every vehicle and friendly soldier.⁶ Satellites will locate critical command and signal locations. Precision munitions strike targets hundreds of kilometers away with amazing accuracy and provide video footage as well. Military leaders, accustomed to almost perfect intelligence in near real time, will orchestrate the effects of these capabilities to overwhelm the enemy's ability to react.⁷ It is unlikely that a less-developed nation will modernize its entire military to match the US, however, they may selectively modernize key technologies and improve their doctrine to degrade US capabilities.⁸ The less than decisive outcome of both Korea and Vietnam demonstrates the potential for simple, infantry-based forces to survive and succeed.

The regional military may be fighting for national survival or willing to commit totally to the conflict.⁹ The target-rich environment of mechanization, logistics, and communication nodes is not present in a low-tech force. Lack of reliable communications or logistics may be the normal method of operation.¹⁰ Maximizing its knowledge of the terrain, a dismounted force can move near an opponent's vulnerable support assets and employing minimum combat power, cause significant disruption. The perceived relative worth of each army's soldiers could also work in the low-tech military's favor.¹¹ The legitimacy of the conflict in the international community is critical to the support required by both sides.¹² The comparison of a Force XXI military and a regional opponent must encompass more than quantitative measures of military effectiveness.

"War in the future may take on many of the characteristics of improvisational theater. The military will find itself on a stage with other actors, before a watching world and domestic audience, without a shared script, and little control over the other actors or the audience reactions."¹³

Clausewitz likened the combatants in a conflict to two wrestlers each attempting to throw his opponent through physical force.¹⁴ This analogy lends itself to comparison of roughly symmetrical opponents, fighting for similar aims, with the outcome decided by the contest itself. Characterizing the conflict as one body against another is much harder when one nation fights a total war while the other does not, or perhaps when one operates strategically to the others tactical. An improvisational theater analogy provides a more effective framework for analysis. In a contest between wrestlers, the outcome is a result of the skills of the two athletes. In the theater, actors play off the strengths and weaknesses of their opponents to appear successful to the audience and directors. Instead of a wrestling mat with predefined limits and rules; the directors, audience, and actors define the stage, often to the advantage of one actor over another. Significantly, actors of varying ability on stage sometimes perform equally well. An evening at the improvisational theater becomes quite interesting when the apparently average actor appears better than the headlining star.

To analyze conflict on the world stage, several elements must be examined before the first act. The militaries, audience, and national directors provide the plays' action and decide the outcome so they are addressed first. Setting the stage will define the where and how of the conflict. The spotlight will narrow to the military performance once the conflict begins, which will allow comparison of the effectiveness of Force XXI concepts against a regional threat. Analysis will then identify strengths and weaknesses of the concept based on the outcome of the conflict.

CHAPTER 2

THE CAST

In a normal theater production, cast selection is a combination of anticipated audience desires, the director's preferences, and the requirements of the play. Militaries are the primary actors of nations in conflict, often reluctantly. Although 525-5 addresses the possibility of rogue militaries and non-national actors, this monograph will assume that the militaries involved are operating to achieve a national objective.¹⁵ The impact of nonmilitary actions, such as diplomacy or economic sanctions, is also assumed to support military operations rather than replace them since the focus is on military conflict.¹⁶ The military, their government, and the audience are the portions of the conflict that provide the action and decision. Their description provides the foundation for analysis.

The Star

The star in a theatrical presentation is the actor expected to carry the performance. Any military capable of rapid, decisive operations while reducing friendly and enemy casualties will surely seem to fit the bill. TRADOC Pam 525-5 characterizes the army of the future, performing on a world stage, as complex and adaptive. Its operations "will involve increasingly high-technology equipment, joint/multinational forces, multidimensional maneuver, precision munitions, smart weapons, and increased situational awareness." Complex, adaptive forces are implied to be the only ones capable of military force projection.¹⁷ The downside of Force XXI is its technological cost and vulnerable support elements.¹⁸

Although TRADOC Pam 525-5 specifically addresses Army operations on the future battlefield, the role of other services and nations is still significant. Without these additional forces, the US is not as likely to succeed on the world stage.¹⁹ Although these elements make the Army more internationally legitimate and combat effective, they also create vulnerabilities. The focus of the monograph is on Army operations in Force XXI but it will address the joint and combined aspects as required. The Army is the force that is most visible on the ground, and as such, is the focus of world attention.²⁰

The complex, adaptive army is more than a simple actor, standing on stage, reading his lines. Part mentalist, part illusionist, and part martial artist, the audience and director expect the starring actor to dominate all others on stage. As a mentalist, the star forces his will on his chosen targets. An elaborate array of high-tech sensors, collectors, and analyzers supports the Force XXI commander as he approaches the conflict and decides when, where, and how to act. The illusionist blinds and confuses the other actors, and part of the audience, to hide his actions. Accomplishing this again requires high-tech systems, but the military must couple them with a doctrine that exploits the slightest advantage so quickly that the opposing military cannot react. The martial artist is fluid and graceful, yet his strikes are powerful and precise. The Force XXI military will move and strike from unexpected directions, and at points of its own choosing, to decisively defeat his opponent at least cost.²¹

The relationship between the star, the audience and the director is a variable that is seldom examined, yet is becoming more important. When using the boxer analogy, the interaction of the government and populous with the military is not very direct. In the

improvisational theater model a director controls each actor, often with the audience in mind.²² Since it is the director who establishes the objectives and limitations for the actor, his concerns should also be concerns of the actor. The complex, adaptive military is an element of national power and as such, operates under the control of the nations' political leaders. Because it is a product of a highly developed nation, the information channels from the battlefield to the populous and then to the political leadership are fundamentally different from those of the regional military. Although the Army will probably conduct operations as it sees fit to accomplish the nation's objectives, it must understand and anticipate the pressures influencing the political leadership.²³ The stars' first concern is his performance, but the audience is a factor in the overall national strategy.

The US Army developed a reputation in Panama and Desert Storm for rapid, decisive operations. The United States, therefore, may expect the Army to dominate every future engagement in like manner. The opponent, however, will certainly contest that dominance. Although the regional military may choose not to modernize its forces to the complex, adaptive level, this does not imply that it is unprepared. Sometimes the star is blinded by his own brilliance and forgets that winning every battle does not always win the war.

The Average Actor

One interesting thing about improvisational theater is that anyone can jump on stage and begin to act.²⁴ Often, the guy off the street is worse than the head liner, but sometimes he appears at least as good. The reason for these occasional successes is probably twofold. First, the average actor does not have to prove that he is a superstar, just

that he is not that much worse. While the US Army must dominate the conflict, the average military just has to survive to appear successful. Second, the audience is perhaps inclined to support or at least partially protect the average actor because he is the not the star. Regional and international audiences see the actions of the US military as those of a Goliath toward David.²⁵ By concealing his strengths, methods, losses or intentions, the average military can maintain the appearance of weakness, whatever his true situation. The audience has great influence on the star that the average actor can exploit.

Nations modernize their armies to counter their most likely national threats.²⁶ Less-developed nations in particular prepare to fight their most dangerous neighbor. This, however, does not preclude a regionally oriented military from taking measures to defend against a complex, adaptive threat. The methods it uses, though, may only focus on selected technologies,²⁷ improving doctrine, or limiting their objectives.²⁸ Instead of modernizing all its conventional forces, a regional military could focus on information and command and control warfare, human as opposed to electronic intelligence collection systems, soldier training and motivation, and special operations type forces to counter a high-tech threat.²⁹

A nation involved in a regional conflict will act differently than one facing a complex, adaptive threat. The regional military's first priority is achieving its national objectives against neighbors or internal threats. This probably results in a conventional style of military operations reminiscent of the Chinese in the Korean War. Infantry forces characterize these operations supported by artillery creating the conditions for a limited mechanized exploitation. Command and control of these elements is based on standard

wire and radio networks augmented by courier and other low-tech means.³⁰ Against a roughly symmetric regional opponent, or internal threat, a combination of mass and ability decides these operations. The *Light Opposing Forces (OPFOR) Operational Art Handbook (Draft)* identifies individual and small unit initiative as the key to success.³¹ This is most likely in a military that is supportive of its government and motivated to win, even at great cost. Preparations to face the complex, adaptive force may be concealed by the conventional operations of the majority of the army.

The relationship of the regional military with its government and population is different from that of the complex, adaptive force. The military is still an element of national power, but the linkage between the two is probably much tighter than the linkage between the government and the people. For example, the military in Iraq is used by Saddam Hussein to control the populous, rather than the use of the military being controlled by them. Whereas the US government considers the perceptions of the population while controlling its military.³² Regional governments may conduct military operations with little concern for domestic support. When the military purpose is to support the government rather than the state, the control of the populous over the military is reduced or eliminated.

The Audience and Director

When a person attends the theater, he expects the play to be enjoyable and justify the time and money spent on the evening. This is even more true of improvisational theater since the audience is expected to participate actively. The play's director facilitates the actors' interaction with the audience. This has several militarily significant implications

when the theater analogy is transferred to conflict. First, no military actor can ignore the effect of his actions on a particular audience and director.³³ Second, the audience supporting the opposing actor becomes the target of military action, whether directly or indirectly. The complex, adaptive force in particular answers to a director influenced by at least a part of the audience. Metanational and political organizations, such as the UN or EC, can also impose limitations on the activities of one or both actors. These controls are often the direct result of audience perceptions fostered by the media.

For example, the international community may perceive the numbers of casualties inflicted by the complex, adaptive force on the average military as excessive and place restrictions on further operations.³⁴ The audience does not actually have the power to immediately limit an actor, but the actor disregards the audience at his own risk. Over time, the audience can exercise more direct control, but it is still the military and political decision makers who carry out an audience's desires.³⁵ The military can and must influence the audiences' perceptions of its operations to maintain support in the achievement of its objectives.

The nations controlling the military actors ultimately set the objectives for the play, but they do so under varying degrees of influence from other sources. In the US, the political leadership is constantly aware of the impact of mass media, particularly television, on the populous. Although the opinions expressed in print carry more weight regarding foreign policy, the impact of television is still a concern.³⁶ The US military can no longer ignore the role of the media in gaining and maintaining audience support, if not for military operations, for the government directing them. The regional military and

government probably do not need the media to influence their population, instead, the media is used to influence the opposition.

The star, average actor, and director are known before the play begins, while the make up of the audience depends on all three. The militaries will adapt and change as the conflict progresses, but at the beginning, they are fairly set. The stage, setting and scripts are the unknowns at this juncture. The nations involved will identify the objectives for their militaries, define the initial limits they will operate under, and attempt to influence the legitimacy of their actions both internally and externally. Only after the stage has been set, can the actors begin their dialog of conflict to decide the better performer.

CHAPTER 3

SETTING THE STAGE

If a theater consisted solely of actors on a bare platform, without script or direction, then it would probably leave the audience and actors quite dissatisfied. Even in improvisational theater, the actors arrive on stage with more than just a notion of the words and actions they will perform to satisfy their audience. Spotlights and scenery highlight the actors and contribute to the action. Although military's do not fight for the enjoyment of the audience, they do perform under direction of the government with their actions highlighted by the media. Military combatants operate within the boundaries of different, overlapping stages only part of which are shared by both. Nations, audience perceptions, and the militaries themselves define these stages. Each nation develops a concept for the what the military will accomplish rather than how it will perform. The military then

becomes responsible for adapting to the realities of conflict and the oppositions' actions. Significantly, each military plans its actions separate from its opponent, but they both attempt to anticipate and influence the others' actions. Even the forms of media that serve as conduits for information are used differently by the actors. The only constant shared by the two sides is the terrain in the overlapping area of the stage. The script, stage, and special effects provide the context for the conflict.

The Stage

The stage in a theater is simply the area where the actors perform, it is much more dynamic in a conflict. Defined by its location on the ground, its duration, and many other limitations imposed on a combatants, the stage will change as the conflict progresses. Each nation, and military, defines the boundaries of the conflict differently. The regional military may want to prolong the conflict, or use the terrain of adjacent nations or its own to diffuse the power of an attacker. The complex, adaptive force may have to limit collateral damage in urban areas or not cross a regional boundary. The definitions are obviously dynamic since one side's actions may cause the reduction or imposition of a restraint on the other. These initial limitations are the context within which each military will plan its operations.

For example, in the Vietnam War, the US military had the ability to conduct air and ground operations in North Vietnam, Cambodia, and Laos. Due to political and international limitations, however, the military could only execute selected air operations in North Vietnam and no ground operations outside South Vietnam until late in the conflict.³⁷ The North Vietnamese had no such limitations and ignored the sovereignty of

their neighbors. They were also willing to extend the conflict over a generation if required. The US battlefield was different from that of the North Vietnamese giving them a decided advantage.

The terrain shared by both combatants could serve as an equalizer for the regional military. When properly exploited, it could allow an apparently weaker force to perform on par with a stronger one. Many military futurists anticipate the next conflict occurring in the developing nations of today's third-world. According to Chris Bellamy, these nations are located in some of the most inhospitable regions of the world. The role of terrain has not changed significantly, it still serves to channelize, hinder, and restrict military operations.³⁸

What has changed is the effectiveness of positional defenses, especially those not tied to natural obstacles. Modern systems are now capable of locating and attacking fixed positions in many types of terrain such as jungles. Because of this, the complex, adaptive military may maneuver around traditional defenses or degrade them with fire. Terrain still affects both sensors and attack systems in situations such as the mountainous regions of Korea. Regional objectives are probably not selected based whether they are defensible from high-tech sensors and attack. When conflict does occur in these difficult areas, the advantage is initially with the regional military. Urbanization and increased population densities in previously remote border regions may also negate some of the high-tech sensor advantages. Command and control nodes, intelligence collectors, communication centers, and logistics bases can operate with relative impunity if the complex, adaptive force must limit its use of force in cities.

The regional military, since that is what it is, has probably already adapted to the terrain at hand. This degree of specialization is not possible in a military designed for use in all situations. Additionally, some degree of defensive preparations may have already occurred within the regional boundaries before the conflict begins. The benefits accrued by these efforts is, however, as much a factor of the quality of their soldiers and level of training, as it is familiarity.³⁹ Technology is supposed to provide early entry forces with information on terrain and weather although replacing human assessment will be difficult.⁴⁰ Given time, the complex, adaptive force can develop techniques to overcome some of the regional military's terrain advantage.

Time itself may be a limitation of one or both militaries. The complex, adaptive force has incorporated into its doctrine the requirement for rapid, decisive operations. The regional military may want to prolong the conflict so that its less mobile forces can maneuver. The longer it appears successful against the complex, adaptive force, the stronger its position with other regional nations and the international community will be. Limiting the duration of the conflict is probably desirable, but setting the time limit before deployment is probably not.

Casualty levels are supposedly a limitation of US military operations. The difficulty for the regional military is assessing the level of casualties (both his own and US) that will cause US withdrawal. Significant casualties over a short period of time could cause the US populous to demand the removal of some or all the limitations on its forces.⁴¹ Conversely, the perception of "overkill," such as the supposed "Highway of Death," could

cause the imposition of additional limitations.⁴² Casualties are probably an element of war that neither side can use when planning the effect on national will.

As each military begins to understand the limitations it must operate under, there plan for military operations begins to take shape. The regional military probably starts by planning its aggression against its neighbor.⁴³ The complex, adaptive force continues its preparation to respond to everything from peace and stability operations to battle with another complex, adaptive force.⁴⁴ Both militaries will require a rough script to outline what the nation expects them to accomplish.

The Script(s)

Unlike a traditional play, in improvisational theater, the actors do not have a script with lines to read and a plot to follow. They arrive on stage with only a framework for their actions and an intense desire to satisfy the audience. The actors' dialog is a response to the other actors, the audience, the lights, and the stage itself. When a nation decides to commit its military to conflict, it does so with some concept of what it wants accomplished. The less-developed nation may desire territory or regional power while the developed nation might commit to restoring peace or protecting economic stability. Whatever the reason, each military develops a strategy to accomplish its mission and defeat the opponent. Each military must plan within the limitations imposed by its government, often the result of concerns for popular or international support.

When Frederick the Great and Napoleon conducted military operations, their primary concern was the opposing army and its government. Clausewitz, in *On War*, examined the interaction of militaries, politics, and people, but the populous of his day did

not have the same influence as a modern one does. World War I established the populous as a key element in a nation's ability to set objectives and achieve them.⁴⁵ Although the ground campaign in Desert Storm was only three days long, concern for the perceptions of excessive force influenced coalition leaders to limit the conflict short of achieving its military objectives.⁴⁶ The effect of military actions on the perceptions of both the domestic and opposing populous is a consideration as the militaries develop their plans to achieve the nation's objectives.

Governments set military objectives based on their definition of national desires.⁴⁷ In the US, the government generally directs through subordinate military leaders at a strategic level. The military then translates national direction into operational and tactical objectives. Certainly there have been exceptions such as President Johnson's supervision of the air campaign in Vietnam. Overall, however, US military operations are not directly controlled by political leaders.⁴⁸

Other nations may have no such separation between the political and military leadership. Manuel Noriega and Saddam Hussein were not only political leaders, but active military decision makers.⁴⁹ When the US military prepares its plan of attack, it focuses on the purely military portion of the conflict. A regional military, controlled by a leader as concerned with political success as military, may plan its operations to encompass nonmilitary objectives as well. 525-5 portrays future Army operations in purely military terms, while the regional power may attempt to operate using a combination of military and political campaigns.

Both militaries approach the conflict with a plan for achieving their nations' objectives. The regional aggressor likely has the initiative, since its action causes the deployment of the complex, adaptive force. The regional plan must first attempt to accomplish its local objectives, then counter the reaction of other nations. This implies two distinct campaigns, one military and the other political. The military campaign is the conventional use of force to impose a nations' will on the opponent. The other campaign contributes to success against the anticipated international reaction. With the exception of its senior leadership, the regional military probably focuses on the military campaign. Missions such as delay the deployment or infiltrate and attack support bases, however, also support the information campaign. Successful execution of these operations is combined with propaganda at the higher levels to demonstrate US weakness compared to regional military strength. These techniques were used successfully against the US in Vietnam and the Soviets in Afghanistan.⁵⁰ The regional military will plan its operations both politically and militarily to achieve its national objectives.

The fact that the complex, adaptive force either wins or ties militarily, does not equate to a victory in the strategic context. Although the US led coalition overwhelmingly defeated the Iraqi military in Desert Storm, Saddam Hussein and much of his military survived. Some are already questioning just how victorious the United States was.⁵¹ Harry Summers' dialog with the North Vietnamese commander illustrates the problem with ignoring the political aspects of a conflict. When Summer's commented that "you never defeated us on the battlefield" the north Vietnamese colonel replies "that may be so, but it

is also irrelevant”⁵² Information is the means of conducting this political/information campaign and the media is the method of transmission.

Lights and Sound

Neither wrestlers nor actors need any mechanical assistance when communicating with each other. It is the audience that benefits from the light and sound systems. Through their actions, the militaries of both the developed and less-developed nations also communicate with each other. The media provides the means of communication between the military, their government and the populous. Neither military seeks the spotlight for its operations, but the media will come nonetheless. Until just recently, their reporting ability from the battlefield was at least controllable. However, if Panama, Somalia, and the Persian Gulf are any indication, the media’s role in modern conflict has significantly changed.

The US would seem to have an advantage in all forms of communications with its citizens. Experts estimate that 80% of the news flow to the non-Communist world originates from four US owned companies and the remaining 20% from Britain, France and TASS.⁵³ The fact that most international media is western, however, does not mean it is pro-US. The media exists to sell news and stories. Conflict between nations is definitely a source of both and therefore will attract media attention. Print, radio, and television provide the dominant forms of media transmission, each serving a different audience.

Until recently, nations relied on direct contact to communicate with other nations while using print to influence domestic support.⁵⁴ Print is still the medium of choice for

the nations' political elite, those who set the direction for foreign policy. Significantly, print articles have time to be filtered by publishers and are of sufficient length to provide both the writers intent and context. Television and radio producers, on the other hand, have little time to filter their stories or provide context. With slogans like "give us 22 minutes, we'll give you the world," seeing the difference between print and the other mediums is simple.⁵⁵ Television and radio are effective means of reaching the populous of a nation, but their actual influence is still questionable.⁵⁶ Although an event is newsworthy, it may not be covered due to competing local and regional stories.⁵⁷ Without the filters of time, stories that may ultimately be insignificant share equal time with one that are.⁵⁸ Media's need to find stories, supportive or not, often conflicts with military security requirements and the information campaign.

The media may be much easier to control in non-democratic nations, or those that do not fully support the freedom of the Press. In these locations, the movement and reporting of the media is controlled if not directed. Even when they are operating supposedly without restrictions, their stories will generally not contradict the policies of the nation they are reporting from.⁵⁹ For example, when CNN reported 400 civilian casualties from a bunker strike in Desert Storm, Washington reacted quickly to influence the public perceptions of the incident.⁶⁰ To force compliance with UN sanctions, cruise missiles were used to destroy a chemical munitions plant disguised as a milk factory. The supposedly unbiased reporter immediately broadcast Iraqi reports he thought were correct, when in fact, the truth was hidden from his view by a government concerned with world opinion. Less-developed nations are becoming more adept at influencing western media.⁶¹

Western media organizations exist to tell stories and sell products to their audience. Although the US government does not directly control their reporting, it does control access to the news makers and thereby exerts partial control.⁶² The US military likewise controlled the access of the media using pools and report screening in the Gulf War. Although the system was initially called a success, it has recently come under fire as being too restrictive and controlled.⁶³ The short-term benefits of media control are increases in operational security and delays in report filing times to allow normal military-political communications to function. The down-side is a media pool that does not trust military information because they cannot verify it. It also undermines the reporting of Army operations in support of the government and the nation.

TRADOC Pam 525-5 anticipates that;

“Tactical actions and the hardships of soldiers and civilians alike will have an increasing impact on strategic decision making and dramatically alter the concept of time—time from crisis to expected action and time for actual conduct of operations. As in the past, real-time visual images of operations, both positive or negative, will influence national will and popular support for them.”⁶⁴

The US military has proven its ability to defeat opponents on the battlefield, but has done less well at informing the citizens of the nation and gaining media support.⁶⁵

CHAPTER 4

THE PERFORMANCE

Although there are several forms that the regional conflict can take, this monograph will examine only those resulting in an organized, regional military that has conducted an operation contested by the US, if not the international community.⁶⁶ Once

committed, the US will conduct a military campaign within the context of national or international objectives. The regional military will react to the US operations both at the tactical and strategic levels in an attempt to extend the duration of the conflict and lessen US public support. Possible outcomes should provide insights into the strengths and weaknesses of Force XXI operations against a determined, regional military.

ACT I (Action)

The first character introduced to the world audience is the regional military. They will probably see him through the eyes of the media as he strikes militarily at a neighbor or sub-national threat. Key to this phase is the conventional nature of the operations between the two regional forces. It could occur over a period of weeks and months, as conventional forces battle for terrain, or hours and days as one side decisively defeats the other. As described earlier, the regional military uses a combination of infantry and artillery with limited numbers of mechanized forces, to conduct traditional terrain or force oriented operations. Dismounted infiltration and guerilla operations facilitate the maneuver of conventional forces.

The regional battle probably occurs in stages as defined by the political aspect of the conflict. Where possible, the attack begins only after Special Operations Forces have thoroughly infiltrated the disputed area and are successfully conducting unconventional warfare. They prepare the battlefield for a mechanized, expeditionary force that attempts to achieve the military objectives in a single, decisive blow. Following this, the infantry, supported by the artillery consolidate the gains and establish a comprehensive defense. The effort required to field the expeditionary army significantly weakens the defense of

other areas of the nation; since the regional military is designed around the infantry and artillery, rather than mechanized forces.⁶⁷

Of particular concern to US planners is the use of partisans and guerrillas to support conventional maneuver forces. Partisans remain within the boundaries of the nation, supporting the flow of logistics and providing rear area security. Their mission changes to intelligence collection and unconventional operations should an invader penetrate their national boundaries. The role of guerillas is most significant during the regional conflict for two reasons. First, they act as intelligence collectors and through limited direct action, support the forward movement of conventional forces. Second, and perhaps more important, guerillas could increase the legitimacy of the offensive regionally, if not internationally. Although unconventional forces are a concern for the Force XXI military, it is the conventional army that is the greatest regional threat. It is their disposition and conduct that most concerns the monograph.

At some point during the regional conflict, the US government will decide to deploy the military. This may be as a response to international requests or due to public pressure. The media, economic influences, and near instantaneous communication systems have combined to decrease the time before the US is expected to act. They have also increased the areas in the world considered within the national interest. How rapidly the US decides to commit its forces has significant impact on the level of preparation and planning allowed the military.

The battlefield probably has the following characteristics before the actual deployment of the complex, adaptive force. The regional military has control of, or is

threatening a neighbor's territory. If it is still conducting offensive operations, then the battlefield could assume the character of World War I. Infantry armies face each other from trench lines, with the threat of a mechanized attack following any successful breach. If it has concluded its offensive operations; then the infantry, supported by artillery has probably assumed a defensive posture against attack by an external force. The mechanized forces have probably now moved to positions that provide concealment, yet allow them to maneuver. This action has prompted a US decision to deploy its forces to restore the original borders and reduce the offensive capability of the regional military.

ACT II (Reactions)

The deployment of US forces will probably cause one of two reactions. The first is a return to the pre-conflict status quo by the withdrawal of the regional force. The second is a continuation of aggression with an intent to hold or increase gains, in spite of the US deployment. The military objective of US forces assumed by the monograph is a reduction of the regional military's offensive capability, whether he retreats or not. There are significant differences when conducting Force XXI type operations against a military extended outside of, and one defending within its borders. The US must deploy into the area of operations before any action can occur.

TRADOC Pam 525-5 states that “[t]he aim of early entry forces must be, when possible, simultaneous application of force or control throughout the operational area.”⁶⁸ The application of force is intended to occur at all levels from tactical to strategic, thus overwhelming the enemy's capability to react.⁶⁹ Although strategic and operational objectives might be identified and attacked in this regional scenario, there is little chance

of controlling the tactical battlefield. Attacking the operational reserves and the communications used between the government and Army will degrade the capabilities of the regional force. The Force XXI end-state of control across the battlefield, however, will not occur until the threat from the tactical forces is eliminated. A regional opponent, equipped with selected modern technologies, motivated soldiers, and adequate doctrine, presents a considerable risk if deployment extends directly into the attack. A sequential deployment of forces, therefore, seems more appropriate. Once sufficient combat power is present, the Force XXI commander can conduct the distributed, multidimensional maneuver envisioned by 525-5.

While the US is arriving in the supported nation; the regional military could take action to delay the deployment. Conventional military attack is probably not likely given the limited mobility of the infantry-based army and the value placed on the mechanized force. The firing of either conventional or chemically armed missiles against the port of debarkation is a more likely method of attack. Cruise missiles in particular are expected to become more available and perhaps even stealthy. Although probably not sufficient to stop the deployment, missile attacks could delay it or force an attack before the Force XXI commander is ready.⁷⁰

Small unit attack is another method that has the potential to delay the deployment.⁷¹ This is especially true if the nation supporting the US deployment has some internal unrest already. Methods of attack might include “terrorist” style bombings, mortar attacks, sniping, or selective direct action. If the media portrays the guerrilla forces as

disgruntled members of the host nation, rather than active elements of the regional military, it might add legitimacy to the regional aggressor's cause.

The dispersed nature of units on the future battlefield supposedly enhances force protection in Force XXI operations.⁷² Improved sensors and situational awareness are supposed to prevent effective engagement of friendly forces. The pamphlet does not define what an effective engagement is. During the initial deployment, combat power is focused in an expanding base of operations. The enemy would have to mass his forces before engaging any significant forces. When the complex, adaptive force deploys from its staging base in the dispersed nature envisioned by 525-5, even small enemy units could attack with significant impact.

Once on the ground, the complex, adaptive force must establish the infrastructure for intelligence, command and control, and logistics. Technological improvements are expected to simplify the establishment of communications in the area of operations. The development of improved methods of information transfer is likely; yet it is difficult to believe that both the complex, adaptive force and its allies will have compatible systems.⁷³ This will cause a reduction in the information available to senior leaders, which is especially important if doctrine is based on near real time situational awareness.⁷⁴

The logistics required to support the complex, adaptive force must move from their arrival location to the point of use. This travel will occur over the transportation network of a less-developed nation. Future logistics support is based on the principles of just-in-time inventory management. Total asset visibility and built in sensors are supposed to allow logisticians to know what needs repair, who needs resupply, and where so that

forward stock piles can be reduced or eliminated. On the future battlefield, mechanics will drive to broken vehicles without being called. Resupply vehicles travel to unit locations using GPS to eliminate the need for convoys.⁷⁵ This entire concept may be inappropriate to a battlefield covered with small, enemy units.

“The main imperative guiding future operations . . . will be to gain information and continued accurate and timely shared perceptions of the battlespace.”⁷⁶ As the Force XXI commander prepares to conduct offensive operations, he will try to identify target sets at all levels that when attacked simultaneously, cause paralysis within the enemy. The regional commander may conceal these vulnerabilities in areas the US cannot attack. Population centers probably conceal the strategic command facilities. Logistics may already be distributed forward in concealed caches. Communications links may be both protected and redundant. The Force XXI commander may have to focus his operations at tactical levels unless the regional military provides him operational or strategic targets.

ACT III (Decision)

Anticipating the shift to offensive operations by the complex, adaptive force, the regional military must now decide whether to conduct a spoiling attack or transition to the defense. The Light OPFOR Manual only lists two reasons for transition to the offensive: conquering neighbor states and defeating a weakened invader.⁷⁷ Given the apparent differences in mobility and firepower between the two forces, a mechanized counter-attack is probably not likely. Infiltration attacks are still possible, however. Terrain may equalize the relative mobility of the forces; while means of avoiding detection from electronic sensors can often be found. Although some forces will continue to press the

attack through small unit infiltration, the majority of the forces will likely establish a defense.

Defensive preparations probably began in peacetime in anticipation of the commitment of the complex, adaptive force. This would allow the regional military to cache logistics, improve positions, and rehearse the conduct of the defense.⁷⁸ The regional military will probably use a combination of mobile and area defense to disrupt and defeat a ground attack. The Light OPFOR Manual states that only the mechanized force, at the operational level, is capable of the mobile defense. Both the infantry and mechanized forces can use the area defense although it is predominantly used at the tactical level.⁷⁹

Faced with an entrenched enemy, willing to trade certain amounts of space for time, the Force XXI commander might look for an indirect approach to unhinge his opponents defense.⁸⁰ An optimum solution might be one that opens a second or third front against the regional military. If the bulk of the regional military's combat power is committed to defend against the complex, adaptive force, then other borders might be susceptible to attack. Staging from multiple nations in the region may be politically impractical, however. If the military sufficiently degrades the ADA systems, then the air could provide an assailable flank. However, appropriate tactical and operational targets are still difficult to locate and destroy until they are forced to move. If an assailable flank is unavailable, then some form of penetration followed by exploitation (if only with fires) may be required to degrade the offensive capability of the regional military.

At the strategic and operational level, the government and its command and control linkages are probably the most decisive targets. The method of attacking these

targets is generally joint, and there immediate impact is somewhat questionable. Within the regional military, the elements that pose the greatest offensive threat are the fire support systems and mechanized reserve. Without these forces, the regional military would have to rely on guerillas by dismounted infantry to threaten its neighbors. Although this was predominately what North Vietnam used against the US, the conflict was not concluded until conventional maneuver forces were successful.

If the regional military is fighting from prepared positions within its borders, the attack of fire support systems may prove difficult.⁸¹ Artillery and rockets are normally positioned in depth and may be fired from caves or other protective shelters prepared in peacetime. Selective use and terrain masking also reduces their firing signature. US artillery locating radars have a high likelihood of attack by dismounted forces throughout the conflict. The regional commander will conserve his more powerful systems until he identifies the main attack or commits the reserve.⁸² Effectively destroying artillery remains difficult if the enemy commander maintains the ability to control and coordinate their use.

The reserve may also be located within covered and concealed locations prepared before the start of hostilities. If so, they might await either the order to counter attack or transition to the offensive. Should they have to reposition for survival or to support a change in the tactical situation, they might move in small numbers to mask their location from airborne sensors. The decision to commit the reserve probably occurs at very high levels; so effective targeting of command and control systems could delay their operational use. Their mechanized forces still have to move across the same terrain as the attacking

US forces, but their familiarity with it, may allow movement where US intelligence felt it could not occur.⁸³

Throughout the campaign, US rear areas are subject to attack by small, dismounted forces. These units will attack small convoys or key nodes such as communications centers and logistics caches. They will also report their observations for selective indirect fire engagement or follow-on infiltration attacks. Against maneuver units, these forces are simply a nuisance, but against the support systems in the US rear, they will disrupt sustainment operations, communications, and movement. The OPFOR at JRTC can infiltrate and move almost at will, even against the AC-130 and AH-64's with their extremely effective thermal sights.

If the high-tech sensors can identify the artillery, mechanized forces, and protective ADA systems with sufficient clarity, the US commander may still attempt the multidimensional attack described in 525-5. Indirect fires simultaneously attack artillery and ADA to facilitate the forward passage of Air Force and Army aviation as it moves to strike the mechanized force. Enemy artillery positions are suppressed until precision munitions can be directed into their protected positions. US maneuver forces apply pressure on the forward defenses to force the enemy commander to support both close and rear battles. The scenario repeats as often as necessary to reach the desired level of destruction, or the enemy concedes defeat.

On the other hand, if the commander is denied a flank or the targets are not effectively identified, then the commander may have to conduct a more traditional form of maneuver. This may take the form of a deliberate attack or breach followed by an

exploitation or pursuit. The enemy's offensive capabilities are still the target, but their simultaneous engagement is not an option. Through the application of precision fires and flexible maneuver, the enemy commander in the close fight may be paralyzed, but the effect probably does not extend beyond the operational level. To expose the enemy artillery systems to attack, the Force XXI commander might first threaten the defending infantry. A combination of infantry and mechanized forces probably provides the most effective threat so the initial maneuver may be a frontal attack to create a penetration.

In an attempt to maintain the simultaneity of the application of force, the Force XXI commander may launch a deep attack using aviation or CAS against the exposed artillery groupings. If the enemy commander anticipates this operation, he could prepare an ADA ambush to defeat it. He does this by creating the signature of an artillery position, then surrounding the area with ADA systems. Only when they visually acquire the attacking helicopters, do they identify their presence. Similar techniques might be used around false ballistic missile positions or a dummy mechanized reserve. Had the Iraqis tied effective ADA systems to their SCUD decoys during Desert Storm, they may have demonstrated this technique in combat.

Given adequate suppressive fires on the defenders, mechanized and armor forces will penetrate the first echelon defenses along limited maneuver corridors. When this occurs, the bypassed infantry units will continue to pose a threat to light skinned vehicles following the exploitation force. If the objective of the Force XXI commander is the destruction of the artillery and mechanized reserve, the penetration has to go only far enough to cause the reserves' movement. Massive air and ground launched strikes to

destroy these forces are tied to this event. The Force XXI commander will require battle damage assessment of his effects on the mechanized reserve since it is the offensive maneuver capability of the regional military. Upon verification, the penetrating force can withdraw and establish a defense against further aggression. If the regional military is defending outside its national boundaries, the artillery and reserves are still the primary focus, but the clearing of remaining dismounted infantry may also be required.

ACT IV (Curtain Call?)

The final Act of the performance is conflict resolution. Reduction of offensive capability may not resolve the political motivations for the regional conflict.⁸⁴ Bypassed forces could resort to guerrilla or terrorist tactics to keep the issue alive in the international media. To maintain stability, a long-term presence might be required.⁸⁵ This mission in particular conflicts with the rapid, decisive operations characteristic of Force XXI. Control is the end state defined by 525-5, but this implies both presence and time.⁸⁶

An assumption made by TRADOC in its Light OPFOR Operations manual was the requirement for small unit initiative. Force XXI targets key nodes and systems at all levels to cause paralysis among enemy decision makers. If the enemy relies on small, distributed units, spread at great depth through the battlefield, they may escape effective targeting by US forces. These small units will continuously attack dispersed US forces such as communications, logistic, and small vehicle convoys. As the US seeks to maintain control of the battlefield, these small attacks could disrupt logistics flows, command and control, and coalition unity. Defense against these attacks might require the diversion of

combat forces to provide protection.⁸⁷ The dispersion envisioned by 525-5 is a response to the lethality of modern weapons, not the distributed small units of the regional military.

If US forces were required to maneuver deeply into the enemy territory, they would probably bypass urban areas to preclude the difficult task of clearing them. Cities are normally located around lines of communication and so control many of the routes needed to move supplies. Refugees compound the problem by clogging supply routes both in and out of cities. Political considerations often require US forces to provide protection for displaced civilians; but these same civilians might conceal the movement of small military units into the rear areas.

Conducting operations beyond the original territorial boundaries could jeopardize the legitimacy of the complex, adaptive operations. The US can probably attack through, and clear, the disputed region without losing the support of its allies and the populous. The long-term occupation of another nation to defeat dispersed infantry units will probably lessen that support. US forces were committed to counter an act of aggression by the regional military. Once the disputed territory has been secured, it will become much more difficult to justify continued operations. It is even harder to imagine maintaining support for an occupation army, conducting counter-guerrilla operations within a nation not perceived as worth continued loss of US soldiers.

CHAPTER 5

THE REVIEWS

After the play has finished, the audience expects a review of the performance, direction, and staging. The conflict between a complex, adaptive force and a regional military is also criticized to determine where improvements are needed. If the regional military exposes its vulnerabilities to US sensors, then the simultaneous, multidimensional attack envisioned by 525-5 is certainly a possibility. Force XXI techniques face significant obstacles when applied to an enemy that understands US political limitations, and attacks the vulnerabilities inherent in force projection operations. The enemy has considerable influence on the conduct of future operations. Although 525-5 identifies a spectrum of threats, it has only one concept to apply to them all. Achieving some political goals may require more traditional forms of maneuver which may be impossible if the Force XXI concept is fully implemented.

Given the opportunity, the simultaneous application of force from strategic to tactical levels is surely the most effective means of defeating an enemy. By exploiting sensor technologies, situational awareness, precision munitions, and doctrinal flexibility, the Force XXI commander can apply his combat power where and when he chooses. This will reduce casualties and limit the conflict's duration. Initially, the initiative often rests with the regional aggressor. Force XXI operations' seize the initiative from the enemy and keeps it until he submits. By tailoring the force to only that needed to accomplish the mission, the future commander can reduce deployment times and support requirements.

The US will expect Force XXI-type operations if the enemy has vulnerabilities in doctrine, training, and command and control similar to those of Iraq and Panama.

Perhaps the most critical deficiency noted in TRADOC Pam 525-5 was the lack of conceptual flexibility. Force XXI operations are expected to occur simultaneously throughout the battlespace, regardless of the enemy.⁸⁸ If possible, early entry forces simultaneously apply overwhelming force or control through the operational area.⁸⁹ Forced entry type units can overwhelm numerous, discrete targets, but assuming they can do the same to an army that demonstrates initiative and is prepared to defend is probably risky. The next implied option is to build up combat power and then execute Force XXI type operations. Again the enemy can counter if he understands our doctrine and protects critical assets effectively. The Force XXI commander must now execute traditional, combined arms operations with a smaller, more lethal Force XXI Army. This situation is not examined by TRADOC Pam 525-5 at all. Post conflict operations are defined in terms of exerting control, but this seems the opposite of the rapid and decisive operations for which the Army will be structured.

The multidimensional aspect of Force XXI relies heavily on precision targeting based on effective intelligence. Current collection platforms focus on finding the signatures of a modernized army. Tanks, radios, radar emitters, and moving vehicles all provide indicators that electronic sensors can capture. Operational and strategic targets such as government buildings and telephone switches are usually static and therefore simple to identify and target. First, the relationship between the regional government and populous may degrade the effectiveness of strategic targeting. Although the Air Force

attacked Saddam Husseins' government with one of the most determined aerial campaigns in history, he was still able to issue orders and maintain some control of his forces. The intended collapse of Iraqi national will simply never occurred.⁹⁰

Second, with the exception of the mechanized reserve, operational level targets may not even be present. Enemy command and control may be quite rudimentary at lower levels using wire or courier which are difficult to disrupt. At higher levels, enemy commanders may share the same commercial satellites as US forces making their communications difficult to disrupt. This leaves tactical targets which may be most effectively destroyed with traditional, direct fire. The quantity of information available to the Force XXI commander will almost certainly be greater than today; however, an intelligent enemy will conceal and protect that which is valuable.

A non-military reader of TRADOC Pam 525-5 might believe that future Army operations truly are like a ship or plane or the actor described earlier in the monograph. When the director tells the actor to move, he moves. When the commander of a ship says turn right, the entire ship and crew turns right. Executing ground operations takes significantly longer in an organization consisting of hundreds of thousands of individual pieces. The turning movement executed by VII Corps in Desert Storm took months of planning and preparation before execution. Political direction of the military now occurs in near real time, but ground forces are restricted in how quickly they can move and react to this direction.⁹¹ The complexity of executing Force XXI-type operations will require planning, coordination, rehearsals, and training to properly execute. What the term rapid

means to the Army is probably not the same as what it means to decision makers and the media.

The US government provided an official explanation within hours of the Air Force destroying the bunker that caused the nearly 400 civilian casualties in Baghdad. This demonstrates the impact of real-time news reporting on the conduct of military operations. Future military communication systems are expected to flatten and become non-hierarchical, but they will never match the speed of news reporting from the battlefield. Satellite terminals and cameras are smaller and will probably saturate the next conflict, at least on the US side.⁹² If it is the rapid and decisive campaign envisioned by 525-5, then the media's impact on the operation may not be significant. The longer a conflict is in the news, however, the more reporters will look for stories. The US Army does not have a successful history of media relations, but if the military intends to help maintain the support of the domestic audience, it must allow the media the freedom to report. There are valid security concerns as the complex maneuver implied by Force XXI takes shape, but these concerns are lessened when trust is developed between the media and the military.⁹³

In previous conflicts, rudimentary communication systems delayed media reports by days and weeks. More recently, wire services, radio, and the telephone shortened the time needed for print reporters to file their stories to a matter of hours. Television is currently the medium with the most domestic impact, and with portable satellite communications, televised reports are now nearly instantaneous. The government's perception of what the nations' reaction to a televised image will be, is all that is required to cause a decision.⁹⁴ Rapid Force XXI-type operations may be faster than media-

populous-government communications, but media impact will surely increase with the duration of the conflict.

The time from the regional action to the US reaction has become much shorter as demonstrated by our commitment of forces to the defense of Saudi Arabia. Similarly, the time from deployment to the onset of offensive operations is also decreasing. The duration of the conflict should also become shorter. Except for Afghanistan, major combat operations since Vietnam support this compressed time line. The possibility that some threats require a significant build up of US forces, or that complex operations require time to plan and execute is not clearly expressed in the Force XXI concept. Technology and pre-positioned equipment may speed some aspects of planning and deployment, but the requirement to move on terrain, rehearse, adjust to changes in task organization and deconflict the plan will still take time.

The US military prides itself on the higher ethical standard at which it operates. Even without political limitations, commanders are concerned about needless casualties and excessive destruction. The opposing military may use these moral and political limitations to protect certain systems.⁹⁵ This illegal use of civilians and internationally protected sites becomes more dangerous when combined with a controlled media campaign. Images of destruction, especially of civilian-type targets such as buildings, are difficult to portray as militarily necessary. Of course the government can deny these accusations of excessive destruction and point to its use of precision guided munitions as demonstrating its restraint. Support for targeting in civilian areas will still probably diminish over time.

The Army apparently faces a choice between force structure and modernization. By creating a doctrine calling for a smaller and modular force structure, the Army seems to be trying to do both. Only physical presence can effectively provide control against certain types of threats, especially dismounted forces in difficult terrain. Modernization is not aimed at freeing soldiers from support roles so they can increase the strength of combat units. Force structure should support the requirements of operations against a spectrum of threats.

TRADOC Pam 525-5 expects the future battlefield to appear empty. Units will disperse to increase their survivability while sensors give commanders the ability to react and prevent effective attack. This makes sense against an army that fights the way the US does, but it presents significant vulnerabilities when the threat fights differently. Dispersal does increase survivability from the massed artillery US forces expected when facing modernized weapons systems. Logistics bases, convoys, and command and control nodes do make excellent targets for both air and artillery. The empty battlefield is, however, exactly what an infiltrating, dismounted force wants. The OPFOR at the training centers proves time and again, their ability to infiltrate through US forces. Once in the rear areas, they attack only specific targets before returning to their concealed hide positions. Blue forces are unable to respond with fires due to concern for fratricide and combat forces are often unavailable because they cannot be spared from the close fight. Knowing where every friendly soldier is located does no good if the enemy is dispersed, and undetected among them.

TRADOC PAM 525-5 provides an excellent analysis of the various threats that the future military commander could face. What is missing, is how each of these threats will react to Force XXI methodology and how the methodology must in turn adapt to the threat. Our doctrinal techniques may be better known to the enemy than his tactics are to us. For example, the OPFOR in BCTP have realized that SEAD fires normally precede aviation deep attacks. Knowing this, they fire FASCAM to re-seed breached obstacles during the egress SEAD while US artillery is occupied. TRADOC Pam 525-5 basically neglects the reaction of the enemy in the conduct of Force XXI operations. Simultaneous attack of targets through the depth of the battlefield is a means of accomplishing a particular political objective. Different objectives might require other means, perhaps including attrition. Future doctrine and force structure should facilitate more than one method of conducting operations.

CHAPTER 6

CONCLUSION

Force XXI promises rapid and decisive operations which overwhelm an enemy's ability to react. This affect was achieved in Operations Just Cause and Desert Storm, but in both cases, the opponent operated under restrictive centralized control and without small unit initiative. Developing a doctrine and force structure to replicate this effect at the expense of other operational concepts may not be in the Army's best interest. Quick, decisive operations at least cost are obviously the best solution when victory is a function of the purely military aspects of conflict. However, the interference of governments and

populations may equalize the battlefield thus requiring the use of more conventional operational concepts. Against the regional military of this monograph and defined by TRADOC in the Light OPFOR Operational manual, the Army might have to fight in a traditional sequenced application of combat power to achieve the political objectives. The combination of small unit initiative, adequate communication networks, and defensible terrain required to replicate this model does not currently exist outside the training centers, but it is a possibility. Army doctrine and force structure must be flexible enough to allow different operational techniques for different threats.

The framework of improvisational theater provides a context in which an apparently weaker military has the potential to at least survive the attack of a stronger one. The initial definition of each military looked beyond quantifiables and emphasized the intangibles of motivation and initiative which are key to military success. The role of the population and government was also examined to explain some of the limitations under which militaries operate. The relationship of the government, its populous, and the military is critical to the what the armies are expected to accomplish, and what defines success.⁹⁶ After the boundaries were established, the militaries came into conflict as described in TRADOC Pam 525-5 and 350-15. The possibility that Force XXI-type operations might be impossible was examined since the enemy can counter many of the conditions required for its execution.

TRADOC Pam 525-5 describes an operational technique similar to that used against two specific threats. Doctrine, acquisition, and force structure is focused toward maintaining and improving this ability in the future. The Force XXI commander may not

have as many alternatives in how he can conduct his operations because of this. Sensor technologies optimized to detect a modernized force, may not function as well against many of the threats identified by 525-5. The requirement to accomplish the military aspects of a conflict rapidly and decisively, is only possible when a combination of intelligence collection, attack systems, and available targets allows it. When any of these requirements are not met, then simultaneous, multidimensional operations may be impossible or ineffective.

The Army's inability to conduct rapid, decisive operations at least cost against every threat could have significant political as well as military implications. Militarily, the commander may have to conduct a battle of attrition without the required force structure and with decreasing public support. Politically, the government may be limited in its use of the military since not all threats meet the conditions for rapid and decisive operations. Seldom do actors perform at the same level on consecutive nights of a show (and never in improvisational theater.) The next conflict involving a technologically superior force and a supposedly inferior one may surprise the audience as the star struggles to outperform the average actor.

ASSUMPTIONS

Concept papers demand a certain number of assumptions to facilitate analysis. The following list are the ones considered essential without having so many that the scope was too limited. Of course it is impossible to predict what the nature of the next conflict will be, or the types and technologies of the forces involved.

Regional military is operating to achieve a national objective.

Nonmilitary actions, such as diplomacy or economic sanctions support military operations rather than replace them.

Complex, adaptive forces are the only ones capable of military force projection although the possibility of missile or terrorist attack of the US mainland could be possible.

The monograph examines only conflicts resulting in an organized, regional military that has conducted an operation contested by the US, if not the international community.

Although unconventional forces are a concern for the Force XXI military, it is the conventional army that is the greatest regional threat. It is their disposition and conduct that is the focus of the monograph.

ENDNOTES

1. TRADOC Pamphlet 525-5, *Force XXI Operations* (Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994), 3-3 to 3-4.
2. Earl H. Tilford, Jr., "Implications for the Army," In *World View: The 1996 Strategic Assessment from the Strategic Studies Institute*, edited by Earl H. Tilford, Jr., 53-58 (Carlisle Barracks, PA: Strategic Studies Institute, 1996), 55.
3. Brian Nichiporuk and Carl H. Builder, *Information Technologies and the Future of Land Warfare*, (Santa Monica, CA: RAND, 1995), 55-56. Stephen J. Blank, *Operational and Strategic Lessons of the War in Afghanistan, 1979-1990* (Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 1991). Olivier Roy, *The Lessons of the Soviet/Afghan War*, Adelphi Papers, vol. 259 (London: The International Institute for Strategic Studies, 1991), 13-17.
4. Douglas Pike, *PAVN: Peoples Army of Vietnam* (Novato, CA: Presidio Press, 1986).
5. Stanley Karnow, *Vietnam: A History* (New York: Viking Press, 1983), 545.
6. Jay Hendrix, "WARRIOR FOCUS: The Emerging Light Infantry," *Internet Force XXI Homepage*.
7. Gordon R. Sullivan and Anthony M. Coroalles, *The Army in the Information Age* (Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 1995). James E. Sikes, Jr., *Battle Command and Beyond: Leading at the Speed of Change in the 21St Century* (Force XXI Home Page, 1995).
8. Brian Nichiporuk and Carl H. Builder, *Information Technologies and the Future of Land Warfare*, 49.
9. William A. Stofft and Gary L. Guertner, *Ethnic Conflict: Implications for the Army of the Future* (Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 1994), Appendix A.
10. TRADOC Pamphlet 350-15 (Draft), *Light Opposing Forces (OPFOR) Operational Art Handbook* (Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994), 1-7.

11. Chris Bellamy, *The Evolution of Modern Land Warfare* (London: Routledge, 1990), 236-237. Curt Bartholomew, "China's Peoples Liberation Army: Basic Doctrine and Infantry Tactics," *How They Fight: Armies of the World*, no. ATC-1100P-001-93 (Apr 1993), 19.
12. McKenzie Wark, *Virtual Geography* (Bloomington, IN: Indiana University Press, 1994), 30-31. U.S. News & World Report, *Triumph Without Victory: The Unreported History of the Persian Gulf War* (New York: Times Books, 1992), 41.
13. Stephen Bankes quoted in Brian Nichiporuk and Carl H. Builder, *Information Technologies and the Future of Land Warfare*, 59.
14. Carl Von Clausewitz, *On War* (Princeton, NJ: Princeton University Press, 1976), 75.
15. TRADOC Pamphlet 525-5, *Force XXI Operations*, 2-3 to 2-4.
16. The relationship between political and military elements of a nation is assumed to continue. Although non-national entities such as the Kurds or Narco-traffickers could be considered as opponents of the complex, adaptive force, conflict against them would be considerable different than that conducted against a nation-state. This is due as much to the method of control of the military and style of combat employed as it is to the lack of internationally legitimate claim to recognition. Conflict between a complex, adaptive force and these elements is the subject of other monographs.
17. William B. Hunt, "Getting to War: Power, Preference, and the Mass Media," diss. (UMI Dissertation Services (1991), Cambridge, MA: Harvard University), 130. Author was attempting to determine regional threats and highly-developed nations were not perceived to have them. Instead, their threats were measured within the boundaries of their force projection capabilities.
18. TRADOC Pamphlet 525-5, *Force XXI Operations*, 2-5.
19. Gordon R. Sullivan and Anthony M. Coroalles, *The Army in the Information Age*. Charles M. Maynes, "The World in the Year 2000: Prospects for Order or Disorder" in *The Nature of the Post-Cold War World*, edited by William G. Hyland, 1-24, (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 1993), 13. TRADOC Pamphlet 525-200-2, *Early Entry Lethality and Survivability* (Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994).
20. William A. Stofft and Gary L. Guertner, *Ethnic Conflict: Implications for the Army of the Future*, 11.
21. The description of the complex, adaptive military using these terms was essential to the comparisons of forces on stage. I based the analogies on descriptions of Force XXI operations in 525-5, the Tofflers' *War and Anti-War*, Bellamy's *Evolution of Modern*

Warfare, and many of the other works sited in the bibliography. The analogy creates an image of the actor to facilitate comparison.

22. Robert J. Spitzer, "Introduction: Defining the Media-Policy Link," In *Media and Public Policy*, edited by Robert J. Spitzer, 1-15, (Westport, CT: Praeger Publishers, 1993), 8. Author quotes political scientist E.E. Schnattschneider writing in 1960 "To understand any conflict it is necessary . . . to keep constantly in mind the relations between the combatants and the audience because the audience is likely to do the kinds of things that determine the outcome of the fight. This is true because the audience is overwhelming; it is never really neutral; the excitement of the conflict communicates itself to the crowd."
23. Roger J. Spiller speaks of the impact of global communications and how military leaders can no longer operate in a vacuum. Richard M. Swain, "*Lucky War: Third Army in Desert Storm* (Fort Leavenworth, KS, 1994), xxiv. U.S. News & World Report, *Triumph Without Victory: The Unreported History of the Persian Gulf War*, 400-403.
24. Frank M. Whiting, *An Introduction to Theatre*. Fourth edition (New York: Harper & Row, Publishers, Inc., 1978), 235.
25. Brian Nichiporuk and Carl H. Builder, *Information Technologies and the Future of Land Warfare*, 58.
26. Alan R. Goldman and Homer T. Hodge, "Military Trends in Asia," *How They Fight: Armies of the World*, (Apr 1993): 1-4.
27. Thomas P. Rona, "Will Smart Weapons Become Decisive in Military Engagements?" In *Control of Joint Forces*, edited by Clarence E. McKnight, 95-103 (Fairfax, VA: AFCEA International Press, 1989), 102.
28. Steven Metz, *The Revolution in Military Affairs and Conflict Short of War* (Carlisle Barracks, PA: U.S. Army War College, 1994), 13-14.
29. Brian Nichiporuk and Carl H. Builder, *Information Technologies and the Future of Land Warfare*, 49. Reaction to US improvements was expected to take one of four forms; Parallel - matching technologies, Direct - countering a specific capability with another, Passive - changing tactics and doctrine to reduce a US capability, Asymmetrical - countering a capability with a technique that is unexpected (authors used SOF as an example).
30. TRADOC Pamphlet 350-15 (Draft), *Light Opposing Forces (OPFOR) Operational Art Handbook*. Gerry S. Thomas, "C3I in Unconventional Warfare," In *Control of Joint Forces*, edited by Clarence E. McKnight, 172-86 (Fairfax, VA: AFCEA International Press, 1989), 178-181. Author examines the methods of C3I in unconventional operations. As guerrilla operations could be the foundation of the regional military, the C3I system they used may still be familiar to the conventional commander.

31. TRADOC Pamphlet 350-15 (Draft), *Light Opposing Forces (OPFOR) Operational Art Handbook*, 1-7.
32. Doris A. Graber, *Mass Media and American Politics*, (Washington: CQ Press, 1989), 22-25.
33. Stephen Badsey, *Modern Military Operations and the Media* (Camberley, England: Strategic & Combat Studies Institute, 1994), 21. Charles W. Ricks, *The Military-News Media Relationship: Thinking Forward* (Carlisle Barracks, PA: Strategic Studies Institute, US Army War College, 1993), 18.
34. Joseph Galloway, "Remarks Concerning the Army and the Media," *Association of Advanced Operational Studies NET CALL* 3, Number 1 (Spring-Summer 1995): 4. The US, according to Galloway, stopped the ground war to preclude the perception of excessive casualties on the "Highway of Death." This even though the military objective of destroying the Iraqi military had not yet been achieved. Others believe that the war was stopped due to other, international pressures, either way, the perception of excessive force was a factor.
35. Stephen Badsey, *Modern Military Operations and the Media*, 21. Charles W. Ricks, *The Military-News Media Relationship: Thinking Forward*, 3.
36. Patrick O'Heffernan, "Mass Media Roles in Foreign Policy," in *Media Power in Politics*, edited by Doris A. Graber, 325-36 (Washington, D.C.: CQ Press, 1994), 326.
37. Charles M. Maynes, "The World in the Year 2000: Prospects for Order or Disorder," 8.
38. Chris Bellamy, *The Future of Land Warfare* (New York: St. Martin's Press, 1987), 35-36.
39. Edgar O'Ballance, *Malaya: The Communist Insurgent War, 1948-60*, (Hamben, CT: Archon Books, 1966), 175. The British were happy to discover that Asians were no better at living in the jungle than they were and that training and discipline were the real measures of comparison. U.S. News & World Report, *Triumph Without Victory: The Unreported History of the Persian Gulf War*, 205. Iraqi Foreign Minister Tariq Azziz made a similar mistake when he said that "Americans do not know how to fight in the desert."
40. TRADOC Pamphlet 525-5, *Force XXI Operations*, 3-13.
41. Stephen Badsey, *Modern Military Operations and the Media*, 13-14.
42. Joseph Galloway, "Remarks Concerning the Army and the Media," 4. Eliot A. Cohen and Thomas A. Keaney, *Gulf War Air Power Survey* (Washington, D.C.: U.S. Government Printing Office, 1993), 113-115. U.S. News & World Report, *Triumph Without Victory*:

The Unreported History of the Persian Gulf War, 272-274.

43. TRADOC Pamphlet 350-15 (Draft), *Light Opposing Forces (OPFOR) Operational Art Handbook*, 1-3.
44. TRADOC Pamphlet 525-5, *Force XXI Operations*, 2-10.
45. William M. Hammond, *Public Affairs: The Military and the Media, 1962-1968*, (Washington, D.C.: Center of Military History, United States Army, 1990), 5.
46. Eliot A. Cohen and Thomas A. Keaney, *Gulf War Air Power Survey*, 250-251.
47. B.H. Liddell Hart, *Strategy* (New York: The New American Library, Inc, 1954), 320. The role of the government in the affairs of the military has changed dramatically since the turn of the century and has the potential to change in the middle of the conflict, as Hart points out in the referenced text.
48. U.S. News & World Report, *Triumph Without Victory: The Unreported History of the Persian Gulf War*, 400.
49. Robert H. Scales, *Certain Victory: The US Army in the Gulf War* (Fort Leavenworth, KS: US Army Command and General Staff College Press, 1994), 117.
50. Douglas Pike, *PAVN: Peoples Army of Vietnam*, 30. Andrew F. Krepinevich Jr., *The Army and Vietnam* (Baltimore, MD: Johns Hopkins University Press, 1986), 165.
51. U.S. News & World Report, *Triumph Without Victory: The Unreported History of the Persian Gulf War*. Hence the title.
52. Harry G. Summers, Jr., *On Strategy, A Critical Analysis of the Vietnam War* (Novato, CA: Presidio Press, 1982), 4.
53. Doris A. Graber, *Mass Media and American Politics*, 341.
54. William B. Hunt, “Getting to War: Power, Preference, and the Mass Media,” 12.
55. Jonathan Bentall, *Disasters, Relief and the Media* (London: I.B. Tauris & Co Ltd, 1993), 202-204.
56. Robert J. Spitzer, “Introduction: Defining the Media-Policy Link.”
57. Doris A. Graber, “10,000 deaths in Nepal equals 100 deaths in Wales equals 10 deaths in West Virginia equals one death next door.” quoted by author from Edwin Diamond, *The Tin Kazoo; Television, Politics, and the News* (Cambridge, Mass.: The MIT Press, 1975), 94.

58. Michael J. O'Neill, *The Roar of the Crowd* (New York: Times Books, 1993), 148.
59. Doris A. Graber, *Mass Media and American Politics*, 24.
60. U.S. News & World Report, *Triumph Without Victory: The Unreported History of the Persian Gulf War*, 272-273.
61. Stephen Badsey, *Modern Military Operations and the Media*, 13-14.
62. Julio Borquez, "Newsmaking and Policymaking: Steps Toward a Dialogue," In *Media and Public Policy*, edited by Robert J. Spitzer, 31-40 (Westport, CT: Praeger Publishers, 1993), 37.
63. William Hachten and Marva Hachten, "Reporting the Gulf War" in *Media Power in Politics*, edited by Doris A. Graber, 337-45 (Washington, D.C.: CQ Press, 1994), 342. Not well documented but definitely a vehement denial of the success of military-media operations in the Persian Gulf. U.S. News & World Report, *Triumph Without Victory: The Unreported History of the Persian Gulf War*, 413-414.
64. TRADOC Pamphlet 525-5, *Force XXI Operations*, 2-10.
65. Joseph Galloway, "Remarks Concerning the Army and the Media," 5.
66. Frederic J. Brown, *The U.S. Army in Transition II* (Washington, D.C.: Brassey's (US), Inc, 1993), 24. Brian Nichiporuk and Carl H. Builder, *Information Technologies and the Future of Land Warfare*, 55-56. William A. Stofft and Gary L. Guertner, *Ethnic Conflict: Implications for the Army of the Future*. This is consistent with most of the nations I surveyed as I researched regional militaries, their focus is the most dangerous regional threat.
67. TRADOC Pamphlet 350-15 (Draft), *Light Opposing Forces (OPFOR) Operational Art Handbook*, 1-3, 4-1 to 4-3.
68. TRADOC Pamphlet 525-5, *Force XXI Operations*, 3-12
69. Gordon R. Sullivan and Anthony M. Coroalles. *The Army in the Information Age*.
70. James J. Wirtz, "Counterforce and Theater Missile Defense: Can the Army Use an ASW Approach to the SCUD Hunt?" (Force XXI Homepage, 20 Mar, 1995)
71. This is a key element of North Korean and Chinese tactics and is often used by the OPFOR at JRTC.

72. TRADOC Pamphlet 525-5, *Force XXI Operations*, 3-9. Schneider, James J. "The Theory of the Empty Battlefield," Course Reprint, 37-44.
73. Communications within the US military alone are difficult enough, but adding coalition partners makes the difficulties of Joint communications seem small. US Army. *Army Master Digital Plan*, 1995. Although combined communications have their own chapter in the plan, only four nations are mentioned. Michael A. Vane and Rob Stewart. "LAM/Force XXI Writing Requirement" (Force XXI Homepage, Feb, 1995).
74. Larry K. Wentz, "Communications Support for the High Technology Battlefield" In *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, 8-22 (Fairfax, VA: AFCEA International Press, 1992), 21.
75. TRADOC Pamphlet 525-200-6, *Combat Service Support* (Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994).
76. TRADOC Pamphlet 525-5, *Force XXI Operations*, 3-3.
77. TRADOC Pamphlet 350-15 (Draft), *Light Opposing Forces (OPFOR) Operational Art Handbook*, 1-3.
78. Ibid., 5-2.
79. Ibid., 5-3 to 5-4.
80. Although 525-5 states that no single operational concept can apply to all threats, Force XXI operations are based on application of force throughout the battlespace. This somewhat implies a simultaneous frontal attack from the tactical to strategic level. The flexibility of multiple theaters of operation, rapid operational repositioning to threaten the security of the state, and other broad forms of maneuver are really not explored. Simply because intelligence can identify where enemy forces are located does not mean US forces should attack through them or operate in the same theater.
81. U.S. News & World Report, *Triumph Without Victory: The Unreported History of the Persian Gulf War*, 306-307.
82. Most of the regional militaries surveyed for the monograph controlled their artillery in traditional Soviet style with centralized control, rigid fire plans, and massive volume. The Light OPFOR manual provides for the flexible, responsive fire support system available to the US commanders, but with more firing units available. Although mortars assigned to maneuver units probably fit this description, the level of modernization and decentralization needed within the field artillery system probably exceeds the capabilities of the regional military.

83. The OPFOR attacks at the training centers are examples of what intimate knowledge of the terrain can provide. Whether a regional military can do the same is probable questionable since they do not conduct monthly rehearsals against a thinking enemy.
84. Sara Sewall, "Peace Support and the United Nations," In *Peace Support Operations and the U.S. Military*, edited by Dennis J. Quinn, 101-11 (Washington D.C.: National Defense University Press, 1994), 105-106.
85. Earl H. Tilford, Jr., "Implications for the Army," 57.
86. TRADOC Pamphlet 525-5, *Force XXI Operations*, 3-22.
87. Chris Bellamy, *The Evolution of Modern Land Warfare*, 243. Although high-tech operations with small, well-trained forces may reach a conventional decision rapidly, there is still the requirement for enforcement.
88. Although doctrinal flexibility is identified as key to Force XXI operations, the method it describes is supposedly applicable for all forms of conflict from OOTW to conventional, high-intensity conflict.
89. TRADOC Pamphlet 525-5, *Force XXI Operations*, 3-12.
90. Eliot A. Cohen and Thomas A. Keaney, *Gulf War Air Power Survey*, 118.
91. The difficulty restarting the attack of VII Corps in Desert Storm is an example. Robert H. Scales, *Certain Victory: The US Army in the Gulf War*, 308-309.
92. Sir Peter Anson and Dennis Cummings, "The First Space War: The Contribution of Satellites to the Gulf War," *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, (Fairfax, VA: AFCEA International Press, 1992), 126.
93. Joseph Galloway, "Remarks Concerning the Army and the Media," 4. John H. Cushman, *Thoughts for Joint Commanders* (Annapolis, MD: Author, 1993), 16.
94. Colin L. Powell, "National Security Challenges in the 1990's: 'The Future Just Ain't What It Used To Be,'" In *Control of Joint Forces*, edited by Clarence E. McKnight, 3-8 (Fairfax, VA: AFCEA International Press, 1989), 7.
95. Eliot A. Cohen and Thomas A. Keaney, *Gulf War Air Power Survey*, 63-64.
96. Richard M. Swain, "Lucky War: " *Third Army in Desert Storm*, 280.

WORKS CITED

Books

- Allen, Thomas B. *War Games*. New York: McGraw Hill, 1987.
- Aukofer, Frank, and William P. Lawrence. *America's Team; The Odd Couple--A Report on the Relationship Between the Media and The Military*. Nashville, TN: The Freedom Forum First Amendment Center, 1995.
- Bean, R. Mark. *Cooperative Security in Northeast Asia*. Washington, D.C.: National Defense University, 1990.
- Bellamy, Chris. *The Future of Land Warfare*. New York: St. Martin's Press, 1987.
- _____. *The Evolution of Modern Land Warfare*. London: Routledge, 1990.
- Brown, Frederic J. *The U.S. Army in Transition II*. Washington, D.C.: Brassey's (US), Inc, 1993.
- Builder, Carl H. *The Masks of War*. Baltimore, MD: The Johns Hopkins University Press, 1989.
- Campen, Alan D. editor. *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*. Fairfax, VA: AFCEA International Press, 1992.
- Clausewitz, Carl Von. *On War*. Princeton, NJ: Princeton University Press, 1976.
- Cohen, Eliot A., and John Gooch. *Military Misfortunes*. New York: The Free Press, 1990.
- _____, and Thomas A. Keaney. *Gulf War Air Power Survey*. Washington, D.C.: U.S. Government Printing Office, 1993.
- De Landa, Manuel. *War in the Age of Intelligent Machines*. New York, NY: Zone Books, 1991.
- Graber, Doris A. *Mass Media and American Politics*. Washington: CQ Press, 1989.
- Graber, Doris A. editor. *Media Power in Politics*. Washington, D.C.: CQ Press, 1994.
- Hammond, William M. *Public Affairs: The Military and the Media, 1962-1968*. Washington, D.C.: Center of Military History, United States Army, 1990.
- Hart, B.H. Liddell. *Strategy*. New York: The New American Library, Inc, 1954.
- Karnow, Stanley. *Vietnam: A History*. New York: Viking Press, 1983.
- Krepinevich, Andrew F., Jr. *The Army and Vietnam*. Baltimore, MD: Johns Hopkins University Press, 1986.
- Langford, David, and Brian Stableford. *The Third Millennium: A History of the World: AD 2000-3000*. New York: Alfred A. Knopf, Inc., 1985.
- Marenches, Count de. and David A. Andelman. *The Fourth World War: Diplomacy and Espionage in the Age of Terrorism*. New York: Willam Morrow and Company, Inc., 1992.

- McKnight, Clarence E. editor. *Control of Joint Forces*. Edited by. Fairfax. VA: AFCEA International Press, 1989.
- O'Ballance, Edgar. *Malaya: The Communist Insurgent War, 1948-60*. Hamden, CT: Archon Books, 1966.
- O'Neill, Michael J. *The Roar of the Crowd*. New York: Times Books, 1993.
- Pike, Douglas. *PAVN: Peoples Army of Vietnam*. Novato, CA: Presidio Press, 1986.
- Rosen, Stephen Peter. *Winning the Next War: Innovation and the Modern Military*. Ithaca, NY: Cornell University Press, 1991.
- Rostow, W. W. *The Stages of Economic Growth*. Melbourne: Cambridge University Press, 1990.
- Scales, Robert H. *Certain Victory: The US Army in the Gulf War*. Fort Leavenworth, KS: US Army Command and General Staff College Press, 1994.
- Smith, Merritt Roe and Leo Marx eds. *Does Technology Drive History?* Cambridge, MA: The MIT Press, 1994.
- Spitzer, Robert J. editor, *Media and Public Policy*. Westport, CT: Praeger Publishers, 1993.
- Summers, Jr. Harry, G. *On Strategy, A Critical Analysis of the Vietnam War*. Novato, CA: Presidio Press, 1982.
- Swain, Richard M. "Lucky War: " *Third Army in Desert Storm*. Fort: Fort Leavenworth, KS, 1994.
- Toffler, Alvin, and Heidi Toffler. *War and Anti-War*. New York: Little, Brown and Company, 1993.
- U.S. News & World Report. *Triumph Without Victory: The Unreported History of the Persian Gulf War*. New York: Times Books, 1992.
- Van Creveld, Martin. *Command in War*. Cambridge, MA: Harvard University Press, 1985.
- Wark, McKenzie. *Virtual Geography*. Bloomington, IN: Indiana University Press, 1994.
- Whiting, Frank M. *An Introduction to Theatre*. Fourth. New York: Harper & Row, Publishers, Inc., 1978.

Articles, Papers

- Anson, Sir Peter, and Dennis Cummings. "The First Space War: The Contribution of Satellites to the Gulf War." In *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, 121-33. Fairfax, VA: AFCEA International Press, 1992.
- Baginda, Abdul Razak, Abdullah. "Malaysia's Armed Forces in the 1990's." *International Defense Review* 25 (Apr 1992): 305-9.
- Blount, Kerry. "Wrestling with Information Warfare's 'Dark Side'." *Army*, Feb 1996, 9-15.

- Borquez, Julio. "Newsmaking and Policymaking: Steps Toward a Dialogue." In *Media and Public Policy*, edited by Robert J. Spitzer, 31-40. Westport, CT: Praeger Publishers, 1993.
- Campen, Alan D. "Communications Support to Intelligence." In *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, 51-60. Fairfax, VA: AFCEA International Press, 1992.
- _____. "Information Systems and Air Warfare." In *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, 23-35. Fairfax, VA: AFCEA International Press, 1992.
- _____. "Information, Truth and War." In *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, 87-91. Fairfax, VA: AFCEA International Press, 1992.
- _____. "Iraqi Command and Control: The Information Differential." In *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, 171-77. Fairfax, VA: AFCEA International Press, 1992.
- Clapper Jr., James R. "Desert War: Crucible for Intelligence Systems." In *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, 81-85. Fairfax, VA: AFCEA International Press, 1992.
- Clarke, Bruce B., G. "Conflict Termination: A Rational Model." *Studies in Conflict and Terrorism* 16, no. 1 (Jan-Mar 1993): 25-50.
- Cloughley, Brian. "Pakistan Strives to Match Aims and Capabilities." *International Defense Review* 28 (Mar 1995): 72-78.
- Funkhouse, G. Ray, and Eugene F. Shaw. "How Synthetic Experience Shapes Social Responsibility." In *Media Power in Politics*, edited by Doris A. Graber, 66-74. Washington, D.C.: CQ Press, 1994.
- Galloway, Joseph. "Remarks Concerning the Army and the Media." *Association of Advanced Operational Studies NET CALL* 3, no. Number 1 (Spring-Summer 1995): 3-6.
- Graber, Doris A. "Media Impact on the Political Status Quo: What is the Evidence?" In *Media and Public Policy*, edited by Robert J. Spitzer, 19-29. Westport, CT: Praeger Publishers, 1993.
- Hachten, William, and Marva Hachten. "Reporting the Gulf War." In *Media Power in Politics*, edited by Doris A. Graber, 337-45. Washington, D.C.: CQ Press, 1994.
- Hendrix, Jay. "WARRIOR FOCUS: The Emerging Light Infantry." *Internet Force XXI Homepage*.
- Just, Marion, and Ann Crigler. "Bringing the Distant Close: Learning About South Africa from the News." In *Media and Public Policy*, edited by Robert J. Spitzer, 61-79. Westport, CT: Praeger Publishers, 1993.

- Maynes, Charles M. "The World in the Year 2000: Prospects for Order or Disorder." In *The Nature of the Post-Cold War World*, edited by William G. Hyland, 1-24. Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 1993.
- McKillip, J.D. "Iraqi Strategy During the Gulf War: An Alternative Viewpoint." *Military Review*, Sep-Oct 1996, 46-51.
- National Security Fellows 1986-1987. "Between Peace and War: Comprehending Low Intensity Conflict." In *Series 88-02*. National Security Program Discussion Paper, 1988.
- O'Heffernan, Patrick. "Mass Media and U.S. Foreign Policy: A Mutual Exploitation Model of Media Influence in U.S. Foreign Policy." In *Media and Public Policy*, edited by Robert J. Spitzer, 187-211. Westport, CT: Praeger Publishers, 1993.
- _____. "Mass Media Roles in Foreign Policy." In *Media Power in Politics*, edited by Doris A. Graber, 325-36. Washington, D.C.: CQ Press, 1994.
- Page, Benjamin I., Robert Y. Shapiro, and Glenn R. Dempsey. "What Moves Public Opinions?" In *Media Power in Politics*, edited by Doris A. Graber, 123-38. Washington, D.C.: CQ Press, 1994.
- Pivarsky Jr., Carl R., and John H. Cushman. "MR Letters." *Military Review*, Sep-Oct 1995, 2-3.
- Powell, Colin L. "National Security Challenges in the 1990's: "The Future Just Ain't What It Used To Be"." In *Control of Joint Forces*, edited by Clarence E. McKnight, 3-8. Fairfax, VA: AFCEA International Press, 1989.
- Record, Jeffrey. "Operational Brilliance, Strategic Incompetence: The Military Reformers and the German Model." In *Control of Joint Forces*, edited by Clarence E. McKnight, 26-34. Fairfax, VA: AFCEA International Press, 1989.
- Rona, Thomas P. "Will Smart Weapons Become Decisive in Military Engagements?" In *Control of Joint Forces*, edited by Clarence E. McKnight, 95-103. Fairfax, VA: AFCEA International Press, 1989.
- Rothrock, John E. "Theater War in the Information Age: The Rapid Application of Airpower (RAAP) Concept." In *Control of Joint Forces*, edited by Clarence E. McKnight, 67-79. Fairfax, VA: AFCEA International Press, 1989.
- Sahr, Robert. "Credentialing Experts: The Climate of Opinion and Journalist Selection of Sources in Domestic and Foreign Policy." In *Media and Public Policy*, edited by Robert J. Spitzer, 153-69. Westport, CT: Praeger Publishers, 1993.
- Schneider, James J. "The Theory of the Empty Battlefield." *Course Reprint*.
- Sewall, Sara. "Peace Support and the United Nations." In *Peace Support Operations and the U.S. Military*, edited by Dennis J. Quinn, 101-11. Washington D.C.: National Defense University Press, 1994.
- Shore, David. "Tactical C3I: Where Does It Stand." In *Control of Joint Forces*, edited by Clarence E. McKnight, 86-88. Fairfax, VA: AFCEA International Press, 1989.
- Sikes, James E., Jr. *Battle Command and Beyond: Leading at the Speed of Change in the 21St Century*. Force XXI Home Page, 1995.

- Soderlund, Walter C., and Carmen Schmitt. "El Salvador's Civil War as Seen in North and South American Press." In *Media Power in Politics*, edited by Doris A. Graber, 45-53. Washington, D.C.: CQ Press, 1994.
- Spitzer, Robert J. "Introduction: Defining the Media-Policy Link." In *Media and Public Policy*, edited by Robert J. Spitzer, 1-15. Westport, CT: Praeger Publishers, 1993.
- Thomas, Gerry S. "C3I in Unconventional Warfare." In *Control of Joint Forces*, edited by Clarence E. McKnight, 172-86. Fairfax, VA: AFCEA International Press, 1989.
- Tilford, Earl H., Jr. "Implications for the Army." In *World View: The 1996 Strategic Assessment from the Strategic Studies Institute*, edited by Earl H. Tilford, Jr., 53-58. Carlisle Barracks, PA: Strategic Studies Institute, 1996.
- US Army. *Army Master Digital Plan*, 1995.
- Vane, Michael A., and Rob Stewart. "LAM/Force XXI Writing Requirement." Force XXI Homepage, Feb, 1995.
- Wentz, Larry K. "Communications Support for the High Technology Battlefield." In *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, 8-22. Fairfax, VA: AFCEA International Press, 1992.
- White, Wayne M. "Communicating on the Move." In *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War*, edited by Alan D. Campen, 93-100. Fairfax, VA: AFCEA International Press, 1992.
- Wickham, Jr., John A. "Jointness and Defense Decision Making." In *Control of Joint Forces*, edited by Clarence E. McKnight, 112-16. Fairfax, VA: AFCEA International Press, 1989.
- Wirtz, James J. "Counterforce and Theater Missile Defense: Can the Army Use an ASW Approach to the SCUD Hunt?" Force XXI Homepage, 20 Mar, 1995.

Pamphlets and Monographs

- Badsey, Stephen. *Modern Military Operations and the Media*. Camberley, England: Strategic & Combat Studies Institute, 1994.
- Benthall, Jonathan. *Disasters, Relief and the Media*. London: I.B. Tauris & Co Ltd, 1993.
- Blank, Stephen J. *Operational and Strategic Lessons of the War in Afghanistan, 1979-1990*. Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 1991.
- Builder, Carl H. *The Army in the Strategic Planning Process: Who Shall Bell the Cat?* Santa Monica, CA: RAND Corporation, 1987.
- _____, and Steven C. Bankes. *Seizing the Moment: Harnessing the Information Technologies*. Santa Monica, CA: RAND Corporation, 1992.
- Cushman, John H. *Thoughts for Joint Commanders*. Annapolis, MD: Author, 1993.

- Hunt, William B. "Getting to War: Power, Preference, and the Mass Media." diss. *UMI Dissertation Services* (1991), Cambridge, MA: Harvard University.
- Metz, Steven. *The Revolution in Military Affairs and Conflict Short of War*. Carlisle Barracks, PA: U.S. Army War College, 1994.
- Nichiporuk, Brian, and Carl H. Builder. *Information Technologies and the Future of Land Warfare*. Santa Monica, CA: RAND, 1995.
- Ricks, Charles W. *The Military-News Media Relationship: Thinking Forward*. Carlisle Barracks, PA: Strategic Studies Institute, US Army War College, 1993.
- Roy, Olivier. *The Lessons of the Soviet/Afghan War*. Adelphi Papers, vol. 259. London: The International Institute for Strategic Studies, 1991.
- Stofft, William A., and Gary L. Guertner. *Ethnic Conflict: Implications for the Army of the Future*. Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 1994.
- Sullivan, Gordon R., and Anthony M. Coroalles. *The Army in the Information Age*. Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 1995.

Regional Articles

- Bartholomew, Curt. "Peoples War Under Modern Conditions: China's New Combined Arms Doctrine." *How They Fight: Armies of the World*, no. ATC-1100P-001-91 (July-November 1991): 11-14.
- _____. "China's Peoples Liberation Army: Basic Doctrine and Infantry Tactics." *How They Fight: Armies of the World*, no. ATC-1100P-001-93 (Apr 1993): 19-23.
- Cheung, Tai Ming. "China's Regional Military Posture." *International Defense Review*, 24 Jun 1991, 618-22.
- Dunn, Michael Collins. "Iran's Amphibious Maneuvers Add to Gulf Neighbors' Jitters." *Armed Forces Journal International* 129, no. 11 (Jul 1992): 23.
- Glickson, Roger, and John Turner. "Angola: An Interim Assessment." *How They Fight: Armies of the World*, Sep 1995, 7-9.
- Goldman, Alan R., and Homer T. Hodge. "Military Trends in Asia." *How They Fight: Armies of the World*, no. ATC-1100P-001-93 (Apr 1993): 1-4.
- Hodge, Homer T. "North Korean Military Art." *How They Fight: Armies of the World*, July-November 1991, 15-16.
- _____. "North Korean Army Offensive Operations." *How They Fight: Armies of the World*, Apr 1993, 5-8.
- Jacobson, Michael R. "North Korean Infantry Battalions Tactics." *Infantry* 82, no. 6 (Nov-Dec 1992): 12-17.
- Krute, Robert E., and Carl E. Pales. "Cuba's War of All the People." *How They Fight: Armies of the World*, Jul 1993, 17-21.
- Laschever, Adam R. "China's People's Liberation Army Infantry Battalion Combined Arms Tactics." *How They Fight: Armies of the World, Asia* 10 (Jun 1995): 15-18.

- Sexton, Raymond J. "Ground Force Trends in a Changing Environment." *How They Fight: Armies of the World*, no. ATC-1100P-001-94 (Sep 1994): 1-6.
- _____. "Ground Force Trends in a Changing Environment." *How They Fight: Armies of the World*, Sep 1995, 2-5.
- Singler, Alan J. "The People's Liberation Army in Vietnam and Changes in PLA Military Doctrine." *How They Fight: Armies of the World, Asia* 10 (Jun 1995): 5-14.
- Tusa, Francis. "Iran Bides Its Time." *Armed Forces Journal International* 132, no. 4 (Nov 1993): 19.
- Walsky, Steven S. "Use of Inclement Weather and Reduced Visibility Conditions by North Korean Ground Forces." *How They Fight: Armies of the World*, Apr 1993, 9-18.
- _____. "Chinese Mechanized Infantry Company Tactics." *How They Fight: Armies of the World, Asia* 10 (Jun 1995): 23-26.
- Young, P. Lewis. "Malaysia's Defense Links: Keys to Modernization Plans." *Armed Forces Journal International* 127, no. 8 (Mar 1990): 42-46.
- Zinger, Marcus B. "South Asian Armies: Organization for Combat." *How They Fight: Armies of the World, Asia* 10 (Jun 1995): 19-21.

Doctrinal Publications

- Field Manual (FM) 100-5. *Operations*. Washington D.C.: US Government Printing Office, 1993.
- TRADOC Pamphlet 11-9. *Blueprint of the Battlefield*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1993.
- TRADOC Pamphlet 350-15 (Draft). *Light Opposing Forces (OPFOR) Operational Art Handbook*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994.
- TRADOC Pamphlet 525-200-1. *Battle Command*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994.
- TRADOC Pamphlet 525-200-2. *Early Entry Lethality and Survivability*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994.
- TRADOC Pamphlet 525-200-3. *Dismounted Battlespace*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994.
- TRADOC Pamphlet 525-200-4. *Mounted Battlespace*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994.
- TRADOC Pamphlet 525-200-5. *Depth and Simultaneous Attack*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994.
- TRADOC Pamphlet 525-200-6. *Combat Service Support*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994.
- TRADOC Pamphlet 525-5. *Force XXI Operations*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994.
- TRADOC Regulation 11-15. *Concept Based Requirements System*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1989.

SAMS MONOGRAPH PROSPECTUS

1. SUBMITTED BY: Vockery, William, N, MAJ DATE: January 22, 1996
2. SEMINAR: 2 MONOGRAPH DIRECTOR: LTC Parker
3. WORKING TITLE: Third Wave War against a First Wave enemy.
4. RESEARCH QUESTION: Is the Third Wave war form described by Force XXI appropriate against the predominantly infantry-based armies of the Toffler's First Wave civilizations?
5. PROBLEM BACKGROUND AND SIGNIFICANCE: Against a complex, adaptive enemy, the Force XXI commander will seek to achieve a condition of paralysis through use of long-range precision fires, such as SADARM and BAT, or non-lethal electronic jamming and disruption of his command and control. Against a threat with less reliance on technology, our precision intelligence, fires, and jamming may not produce the same effect. TRADOC Pam 525-5 states that "the majority of the less-developed world's armies . . . are reliant upon dismounted infantry for the bulk of their combat power . . . In many respects they resemble the armies of World War I, with more lethal weaponry."¹ The pamphlet goes on to describe a battlefield where the enemy is not necessarily destroyed, rather he is incapacitated by the application of overwhelming combat power at a tempo which exceeds his capability to command and control.²

As developing nations modernize their militaries to face regional threats, they move from the Toffler's First Wave to the Second.³ Their reliance on armor and mechanized forces makes their engagement by an information-based army much easier. This may result in a "modernized" army resorting to First Wave, infantry-type operations in an attempt to compensate for their apparent vulnerability to high-tech warfare. Similarly, a nation whose mechanized forces are decisively defeated, may also revert to infantry tactics. In both instances, the tools available to the Third Wave commander may be inadequate for the task. 525-5 describes "control" as the end to which a Force XXI commander conducts operations.⁴ Long-term control of terrain has historically required a large investment in man-power and materiel. The design of Force XXI units is smaller, more lethal and more deployable than previous ones. This may not necessarily be the most effective design when facing a First Wave threat. Technologies developed to defeat a conventional, mechanized, combined arms formation, may also need reexamination when our military faces a dismounted, possibly dispersed, infantry threat.

6. METHODOLOGY: My analysis will begin with an examination of first and third wave armies as described by the Toffler's, 525-5, and other doctrinal publications. Analysis of these forces will allow a thorough examination of the actual conduct of Force XXI type operations in various hypothetical scenarios. Considerations for the application of third wave warfare against first wave forces should become apparent. The considerations for future doctrine and technological development will then be proposed.

7. MILESTONES:

22 Jan	Prospectus submitted
31 Jan	Research map prepared (tentative chapter outline)
30 Mar	First Draft Complete
15 Apr	Final Research Complete
30 Apr	Monograph Accepted

8. STRUCTURE: This monograph will consist of five sections:

- Introduction and definition of Force XXI operations (4 pages)
- Examination of first and third wave armies (5-7 pages)
- Analysis of third wave armies against a first wave threat (12-17 pages)
- Impact on Doctrine, Training and Material (5-7 pages)
- Conclusion (2 pages)

1. TRADOC Pamphlet 525-5, *Force XXI Operations*. (Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994) 2-4.
2. TRADOC Pamphlet 525-5, *Force XXI Operations*. (Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994) 2-9, 3-10.
3. Alvin Toffler and Heidi Toffler, *War and Anti-War* (New York: Little, Brown and Company, 1993) 33-43.
4. TRADOC Pamphlet 525-5, *Force XXI Operations*. (Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994) 22.

9. PROPOSED BIBLIOGRAPHY

- Andelman, David A., and Count DeMarenches. *The Fourth World War*. New York: William Morrow, 1992.
- Armstrong, COL Richard. "Threat Spectrum Model." Office of the Deputy Chief of Staff for Intelligence, 1994.
- Baginda, Abdul Razak, Abdullah. "Malaysia's Armed Forces in the 1990's." *International Defense Review* 25 (Apr 1992): 305-9.
- Baker, David. *The Shape of Wars to Come*. Cambridge, England: Stein and Day, 1981.
- Barker, Richard A., et al. "Future Window of the Battlefield." Seattle, WA: Boeing Aerospace Company, Jan 1990.
- Bean, R. Mark. *Cooperative Security in Northeast Asia*. Washington, D.C.: National Defense University, 1990.
- Beedham, Brian. "Defense in the 21st Century." *The Economist*, 5 Sep 1992.
- Bellamy, Chris. *The Future of Land Warfare*. New York: St. Martin's Press, 1987.
- _____. *The Evolution of Modern Land Warfare*. London: Routledge, 1990.
- Biddle, Stephen D., and Victor A. Utgoff. "The Battlefield of the Future." Alexandria, VA: Institute for Defense Analysis, Jan 1989.
- Blueprint of the Battlefield*, TRADOC Pam 11-9, 10 May 1991.
- Bracken, Paul. "The Military after Next." *The Washington Quarterly*, Autumn 993, pp157-174.
- Brown, Frederic J. *The U.S. Army in Transition II*. Washington, D.C.: Brassey's (US), Inc, 1993.
- Campen, Alan D., ed. *The First Information War*. Fairfax, VA: AFCEA International Press, 1992.
- Cathey, Oliver. "A Different Kind of War." Lake Forest, CA: MI SPARTA, Nov 1993.
- Cheung, Tai Ming. "China's Regional Military Posture." *International Defense Review*, 24 Jun 1991, 618-22.
- Clarke, Bruce B., G. "Conflict Termination: A Rational Model." *Studies in Conflict and Terrorism* 16, no. 1 (Jan-Mar 1993): 25-50.
- Cloughley, Brian. "Pakistan Strives to Match Aims and Capabilities." *International Defense Review* 28 (Mar 1995): 72-78.
- Cohen, Eliot A., and John Gooch. *Military Misfortunes*. New York: The Free Press, 1990.
- "Constrained War." *Parameters* Vol XXIII, No 2, Summer 1992, pp 21-40.
- DeMayo, Michael F. *Search and Attack: Just a Technique for Movement to Contact or a Distinct Doctrinal Mission*. Fort Leavenworth, KS: United States Army Command and General Staff College, 1991.
- Does Technology Drive History?* Edited by Merritt Roe Smith and Leo Marx. Cambridge, MA: The MIT Press, 1994.
- Dunn, Michael Collins. "Iran's Amphibious Maneuvers Add to Gulf Neighbors' Jitters." *Armed Forces Journal International* 129, no. 11 (Jul 1992): 23.
- Field Manual (FM) 100-5. *Operations*. Washington D.C.: US Government Printing Office, 1993.
- "The Future Battlefield." *International Defense Review*, Vol 022, No 002, 1 Feb 1989, p. 143.
- Goldman, Alan. "Global Security Forecast: Likely and Alternative Conflict Environments 1993-2023." US Army Intelligence Threat Analysis Center, Washington, DC.
- Hart, B.H. Liddell. *Strategy*. New York: The New American Library, Inc, 1954.
- Langford, David and Brian Stableford. *The Third Millennium: A History of the World AD 2000-*

3000. New York: Knopf, 1985.
- "Marine Corps Mid-Range Threat Estimate 1994-2004," USMC Intelligence Activity, Quantico, VA, 1994.
- National Security Fellows 1986-1987. "Between Peace and War: Comprehending Low Intensity Conflict." In *Series 88-02*. National Security Program Discussion Paper, 1988.
- Rosen, Stephen Peter. *Winning the Next War: Innovation and the Modern Military*. Ithaca, NY: Cornell University Press, 1991.
- Rostow, W. W. *The Stages of Economic Growth*. Melbourne: Cambridge University Press, 1990.
- Sexton, Raymond J. "Ground Force Trends in a Changing Environment." *How They Fight: Armies of the World*, no. ATC-1100P-001-94 (Sep 1994): 1-6.
- Toffler, Alvin, and Heidi Toffler. *War and Anti-War*. New York: Little, Brown and Company, 1993.
- _____. *The Third Wave*. New York: Bantam, 1980.
- TRADOC Pamphlet 525-5, *Force XXI Operations*. Fort Monroe, VA: Headquarters, United States Army Training and Doctrine Command, 1994.
- Tusa, Francis. "Iran Bides Its Time." *Armed Forces Journal International* 132, no. 4 (Nov 1993): 19.
- Wass de Czege, Huba. *NATO Interim Report: Employment Concepts for Light Infantry in Europe*. Fort Leavenworth, KS: School of Advanced Military Studies, United States Army Command and General Staff College, 1988.
- Young, P. Lewis. "Malaysia's Defense Links: Keys to Modernization Plans." *Armed Forces Journal International* 127, no. 8 (Mar 1990): 42-46.